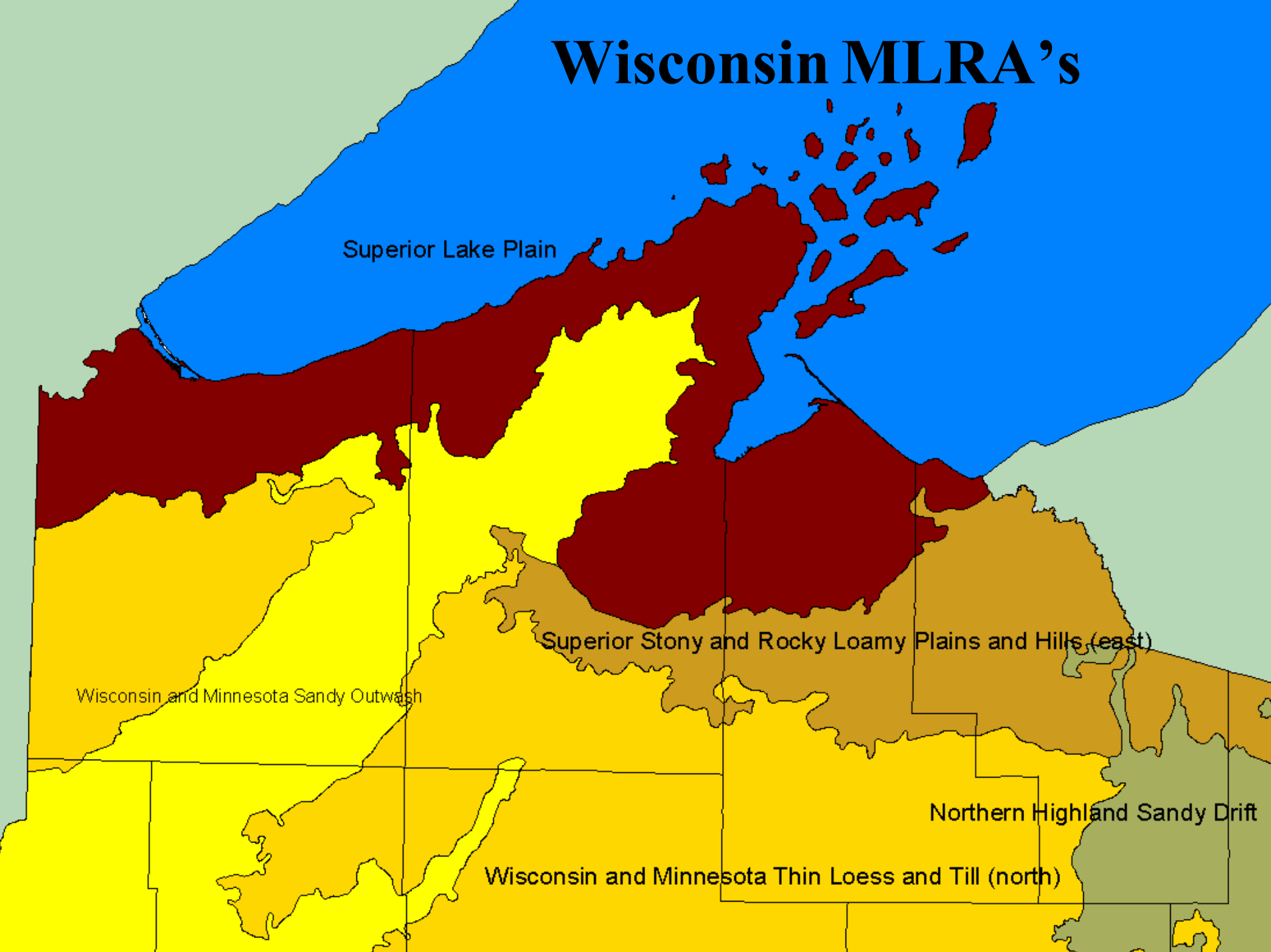
3D-Mapper Application
In the Ashland Soil
Survey Office

Wisconsin MLRA's

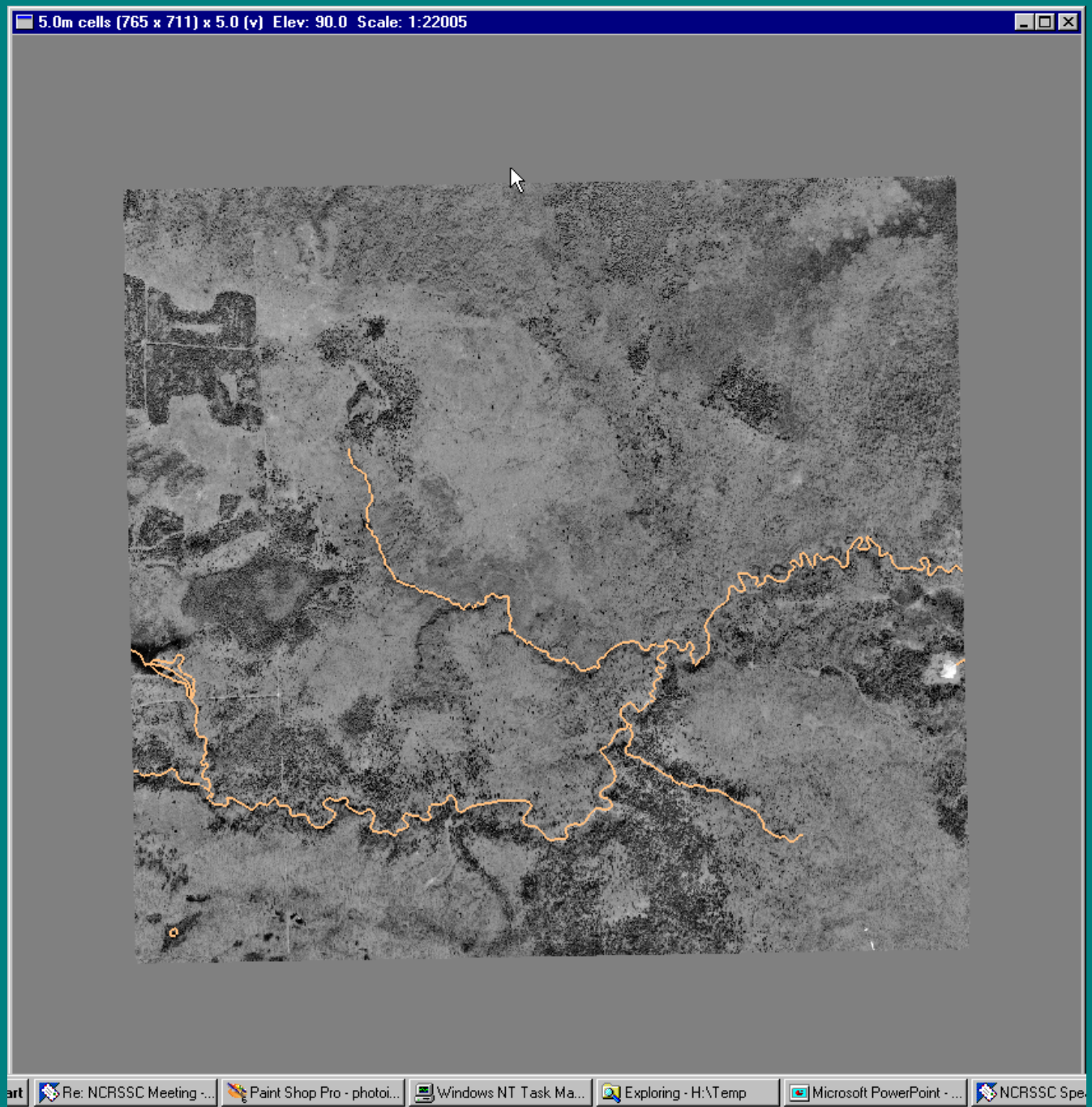


Benefits of 3D-Mapper Vs. Traditional Methods

- Takes out some of the subjectivity of different individuals abilities to see stereo
- Allows user to interpret a larger piece of landscape than can be seen under a stereo scope
- Allows users to see the same landscape at the same time - good for training, development of soil-landscape model
- Allows user to overlay different GIS layers to aid in soil delineations

Examples:

- Raster slope map
- Land Type Association map units
- Hydrographic layers


5.0m cells (765 x 711) x 5.0 (v) Elev: 90.0 Scale: 1:22005
Re: NCRSSC Meeting -...
Paint Shop Pro - photoi...
Windows NT Task Ma...
Exploring - H:\Temp
Microsoft PowerPoint - ...
NCRSSC Spe...

Benefits cont'd

- Lines created in 3D-Mapper are vectors and ortho-rectified, removing several steps involved in soil map finishing

- Soil mapping created in 3d-Mapper can readily be used in a GIS Context where it can begin to be analyzed

Disadvantages in using 3D-Mapper

- Slightly more time consuming for the soil scientist
- Transition from office to field may be difficult
- Reliant on data available for creating .3dm files and the quality of that data

Garbage in = Garbage out

What you need to get started

1. The program.

2. Data to work with

   - A DEM (digital elevation model) in an ASCII format
   - An orthophoto, also in GridASCII format

These need to be in the same projection and datum

3. RAM, more the merrier

   -64 MB minimum

Resources Available:

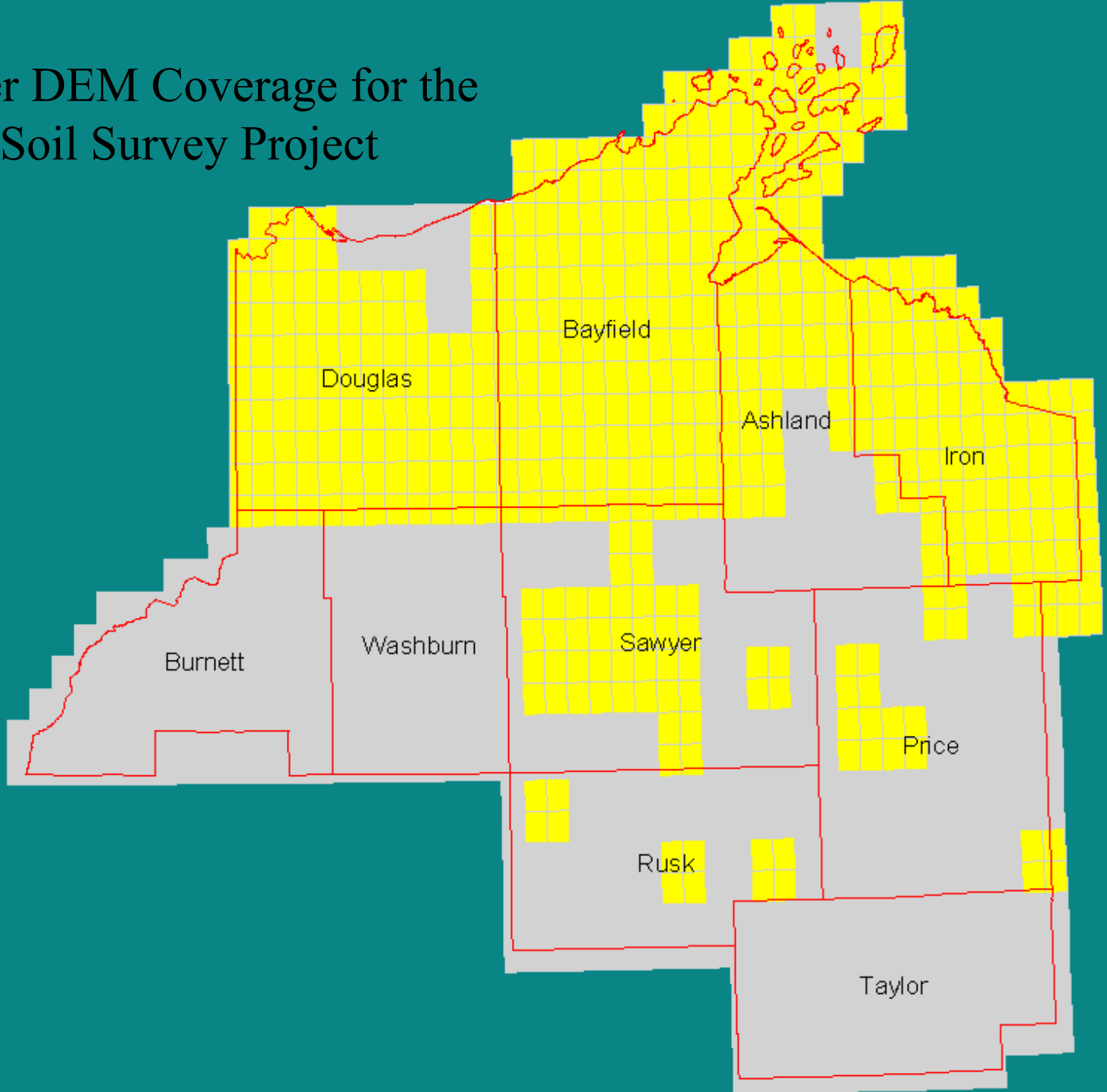
3D-Mapper help

Idaho NRCS web page

Useful for getting files into the right format

3D-Mapper PowerPoint

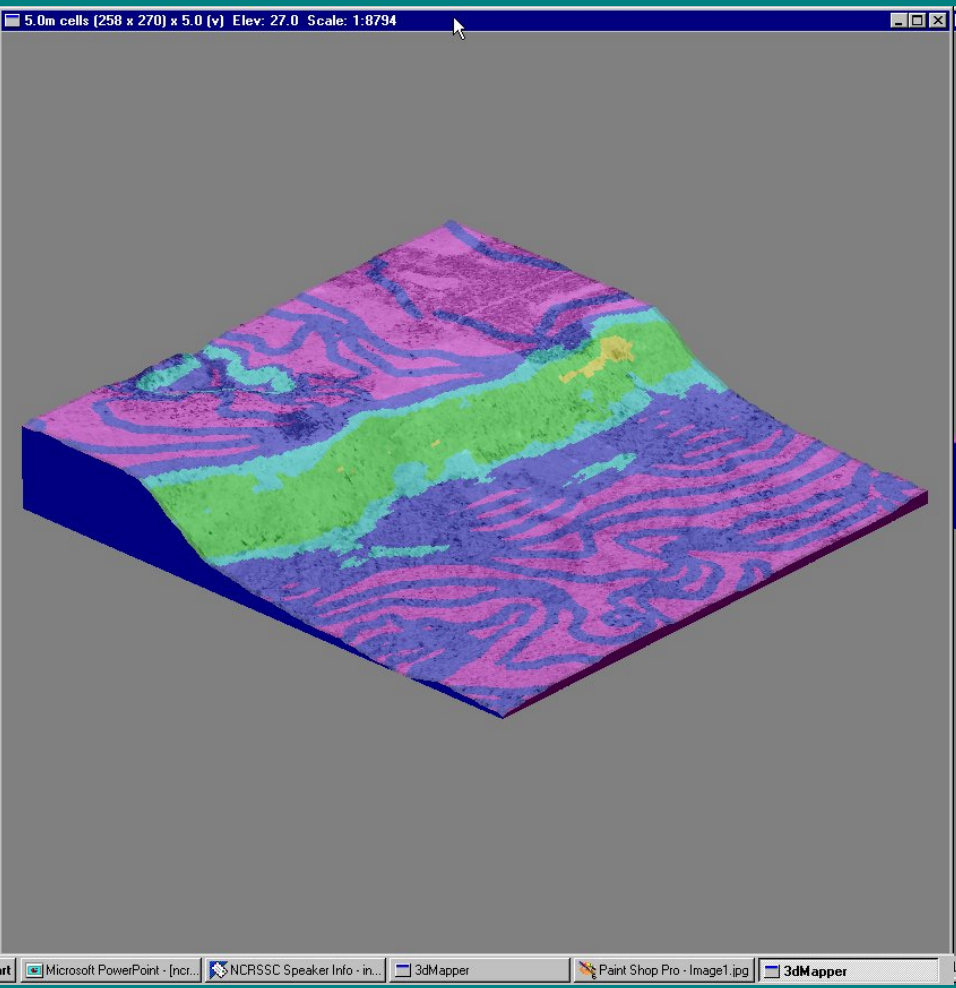
10 Meter DEM Coverage for the NW-10 Soil Survey Project

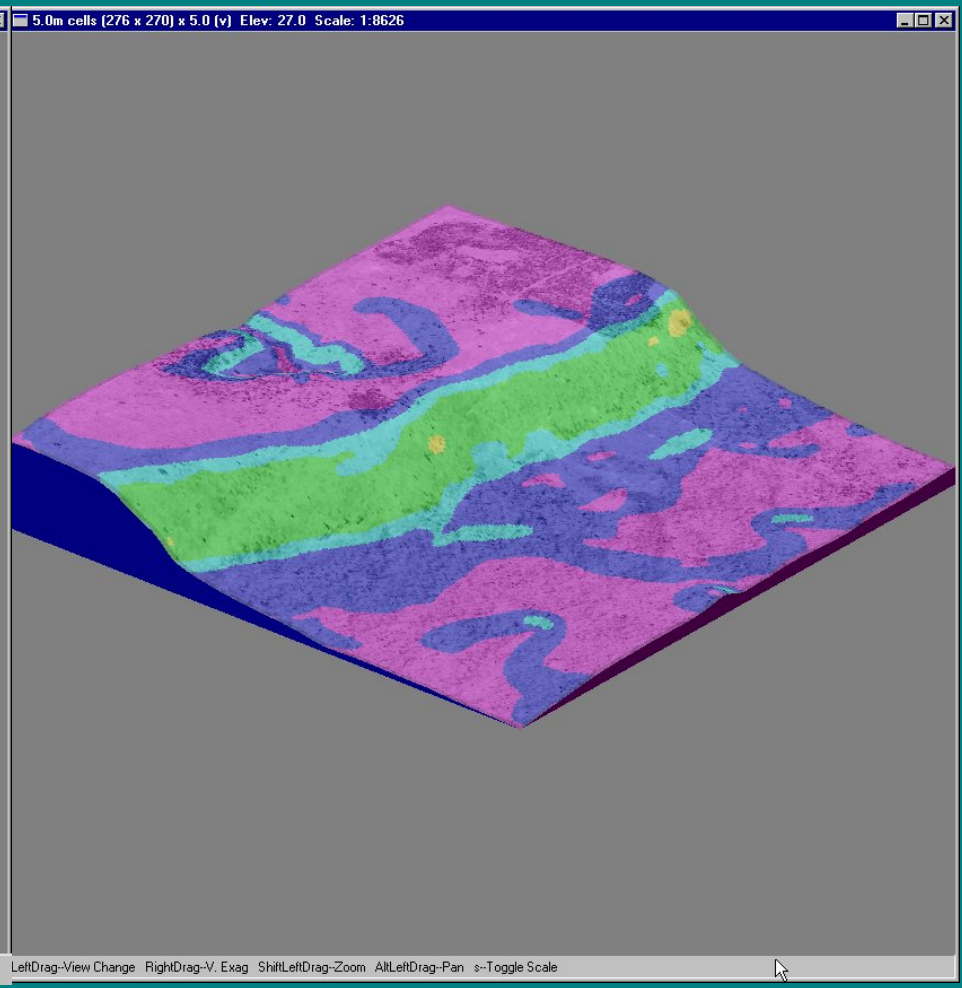


Comparison of 10 Meter DEMs

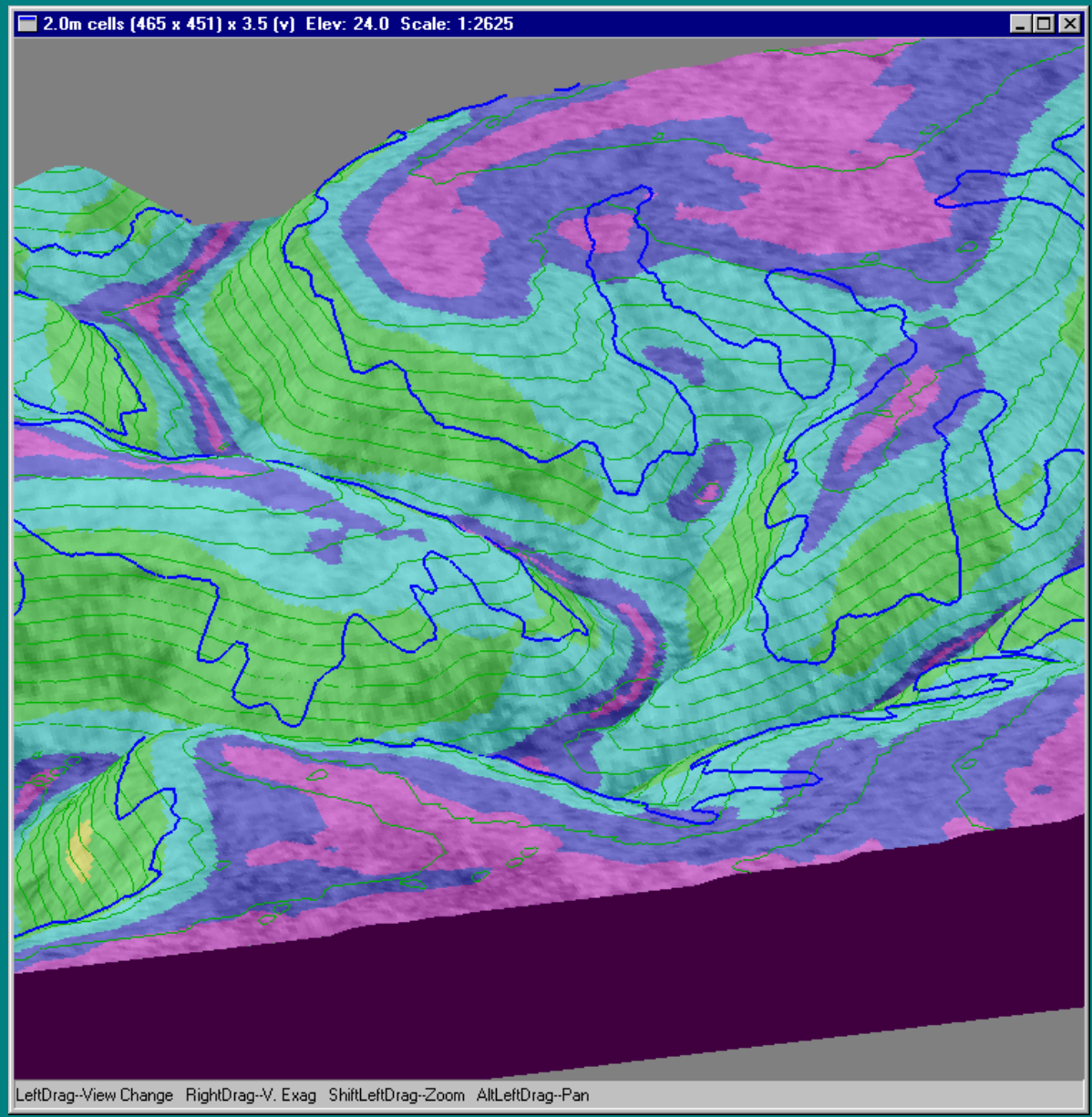
Ten Meter USGS

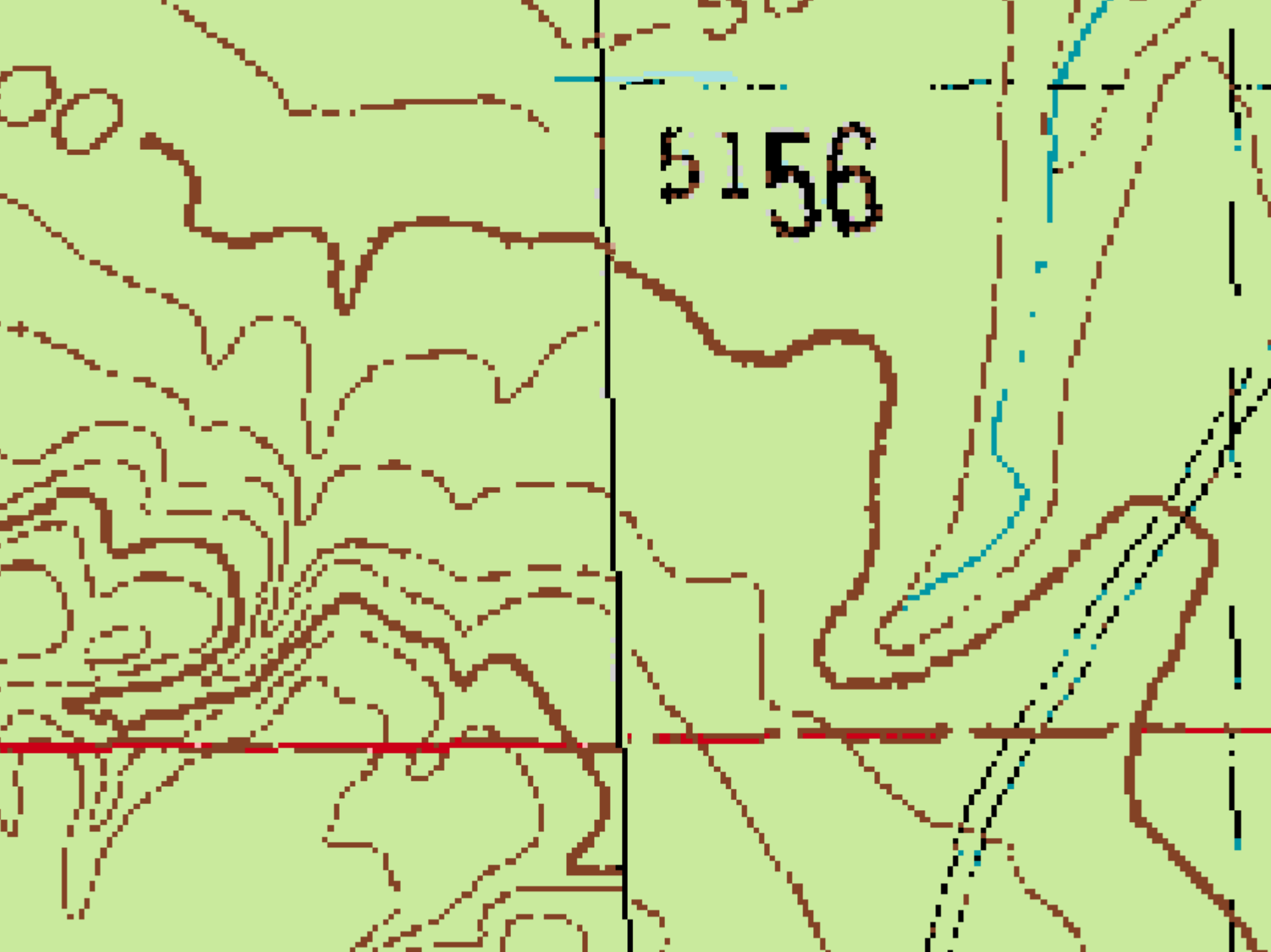
Ten Meter from Mark Miller





Stereo generated lines show error in DEM

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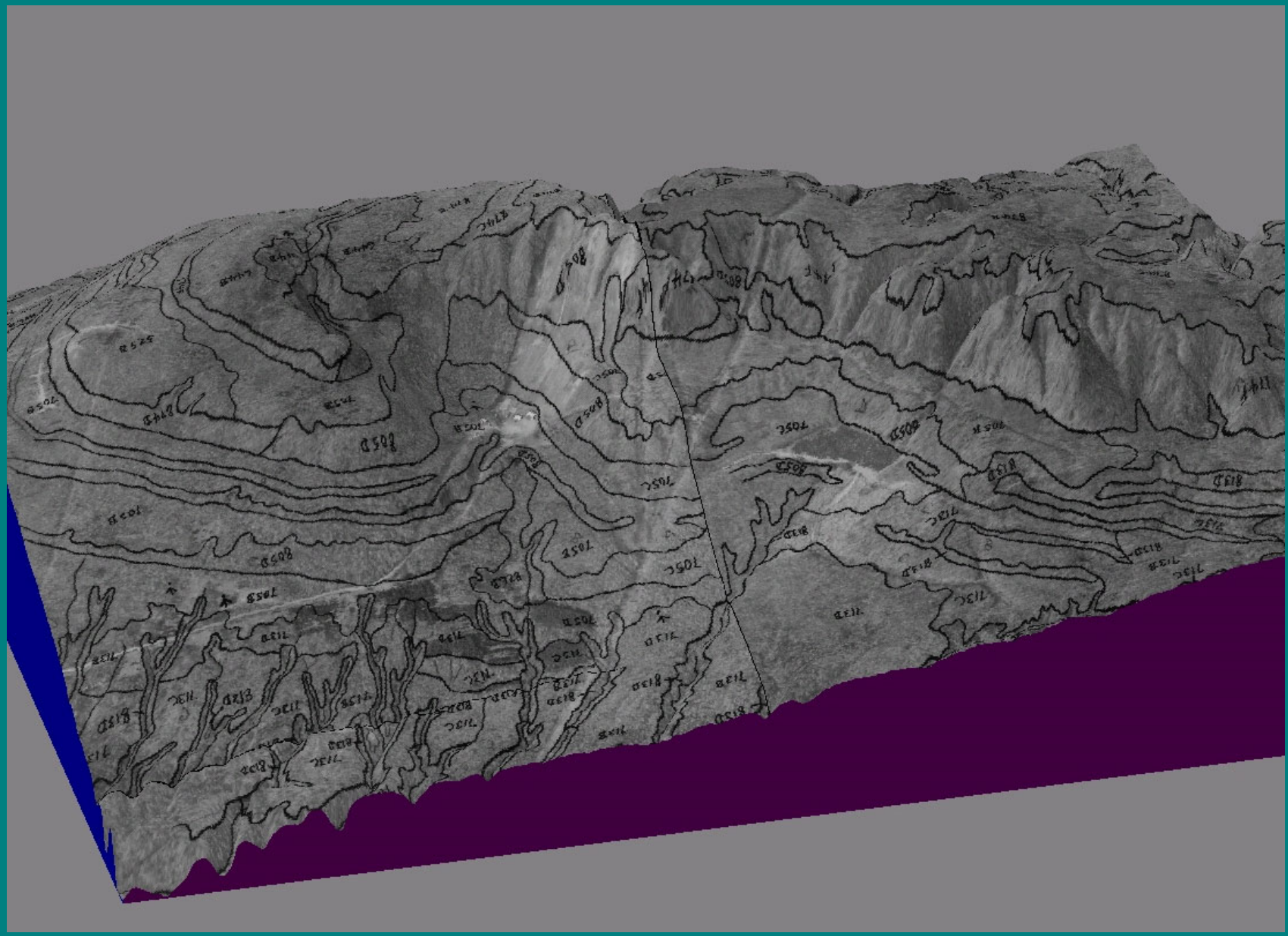
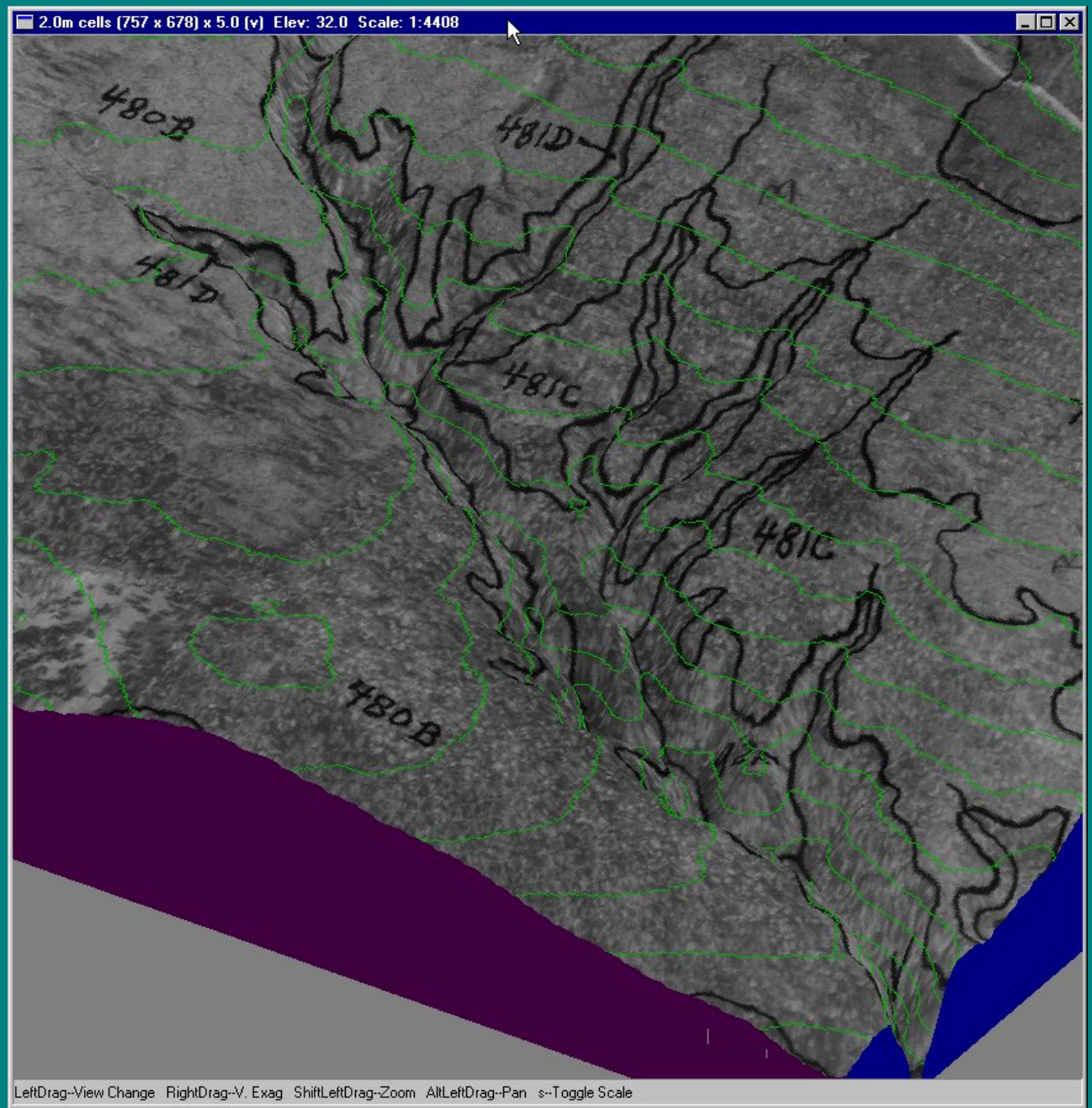
Stereo scope generated soil lines on 10 meter DEM



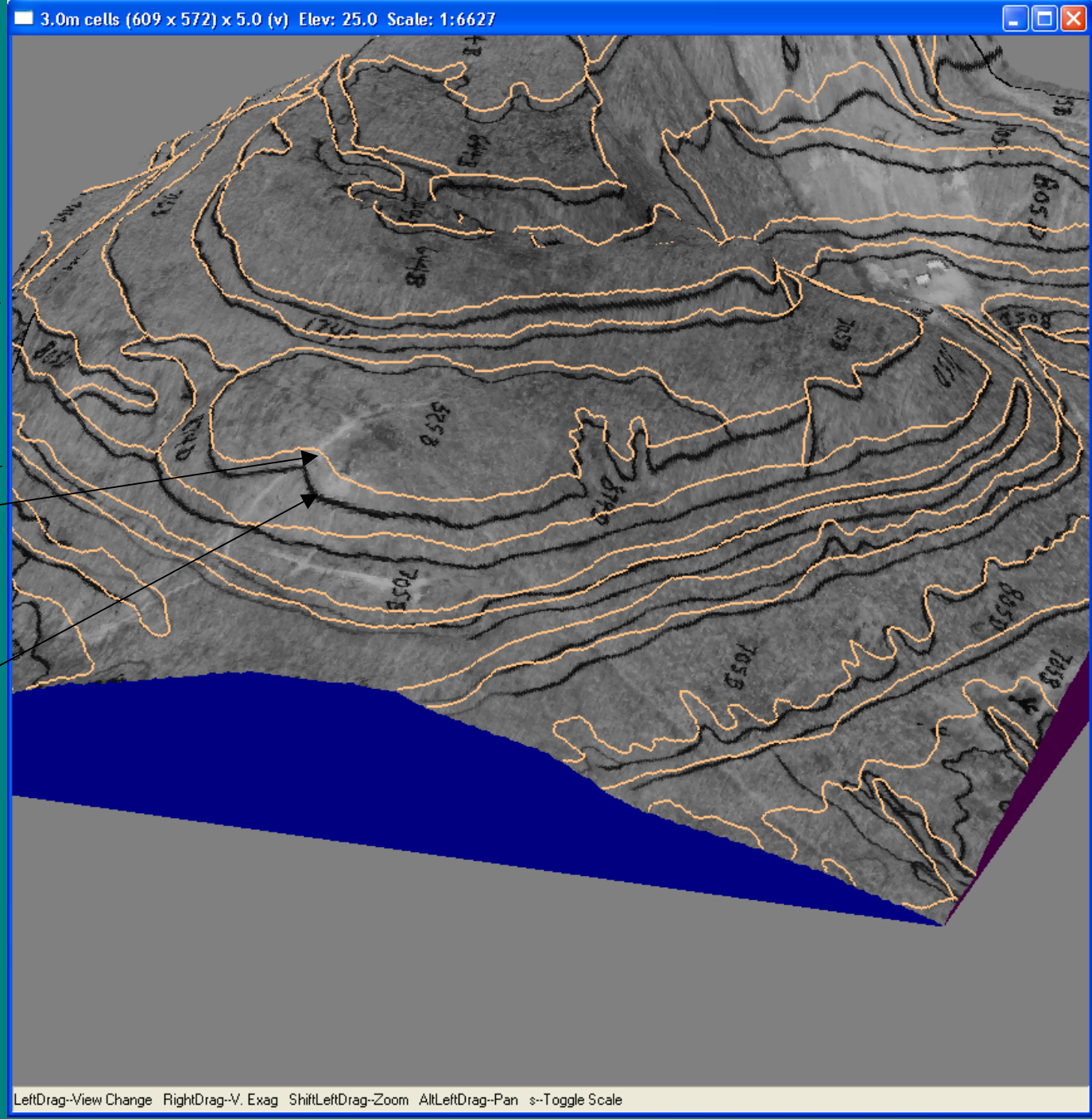
Close-up of stereo scope line on 10 meter DEM



Demonstration of Shift seen during manual compilation

Manually compiled line

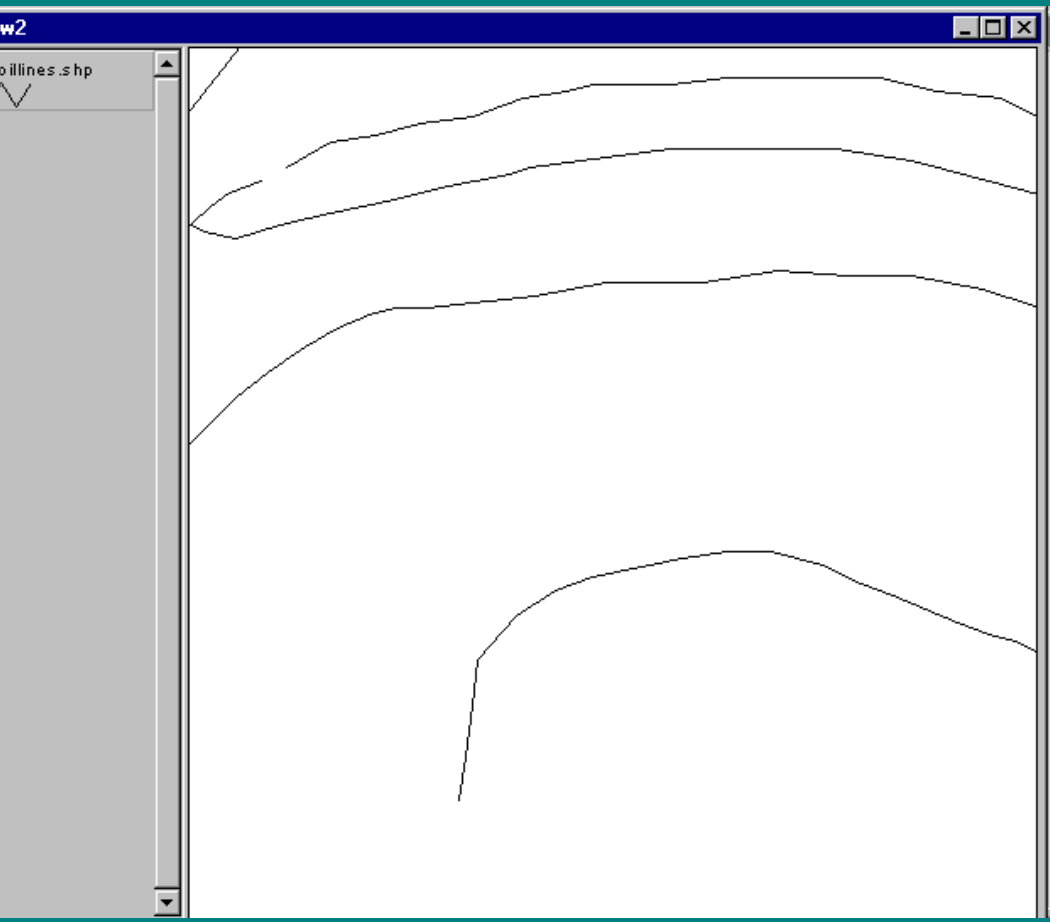
Orthomapper line



Comparison of traditionally digitized lines to those digitized in 3D-Mapper

3D-Mapper

Traditional



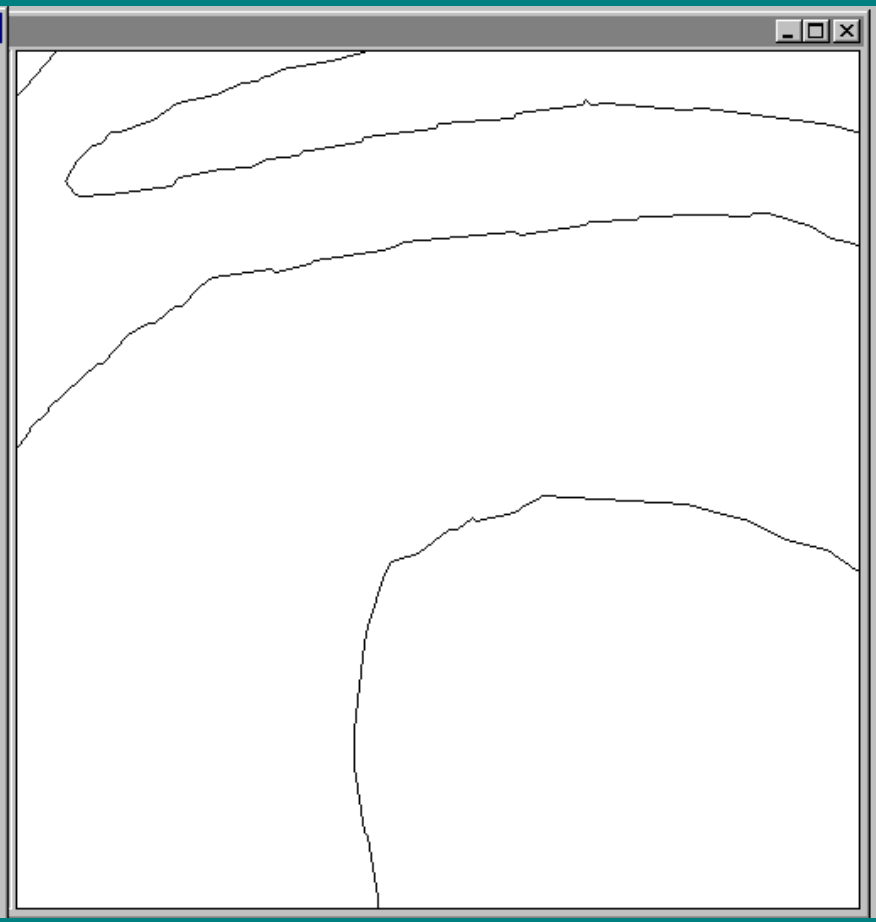
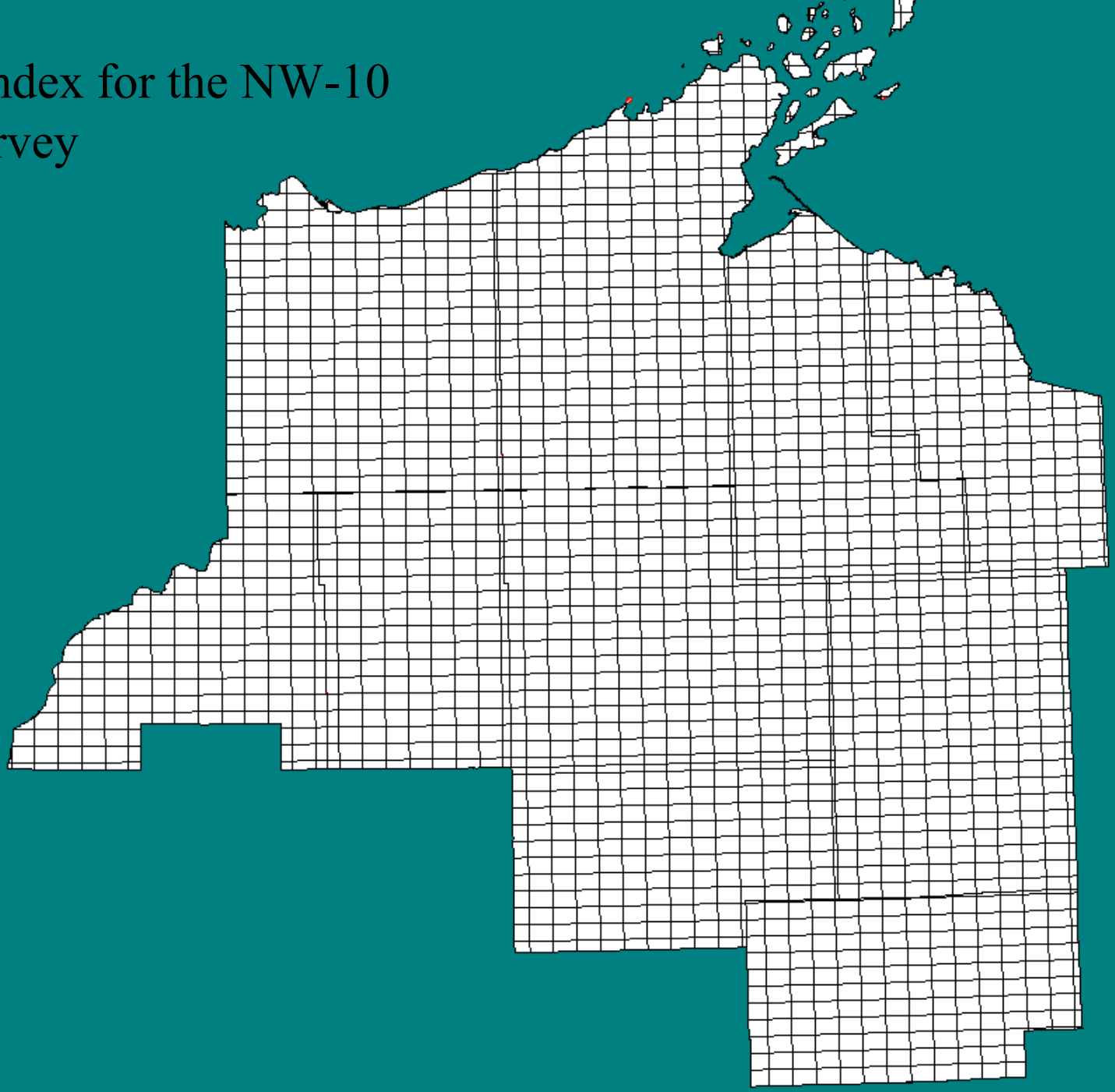
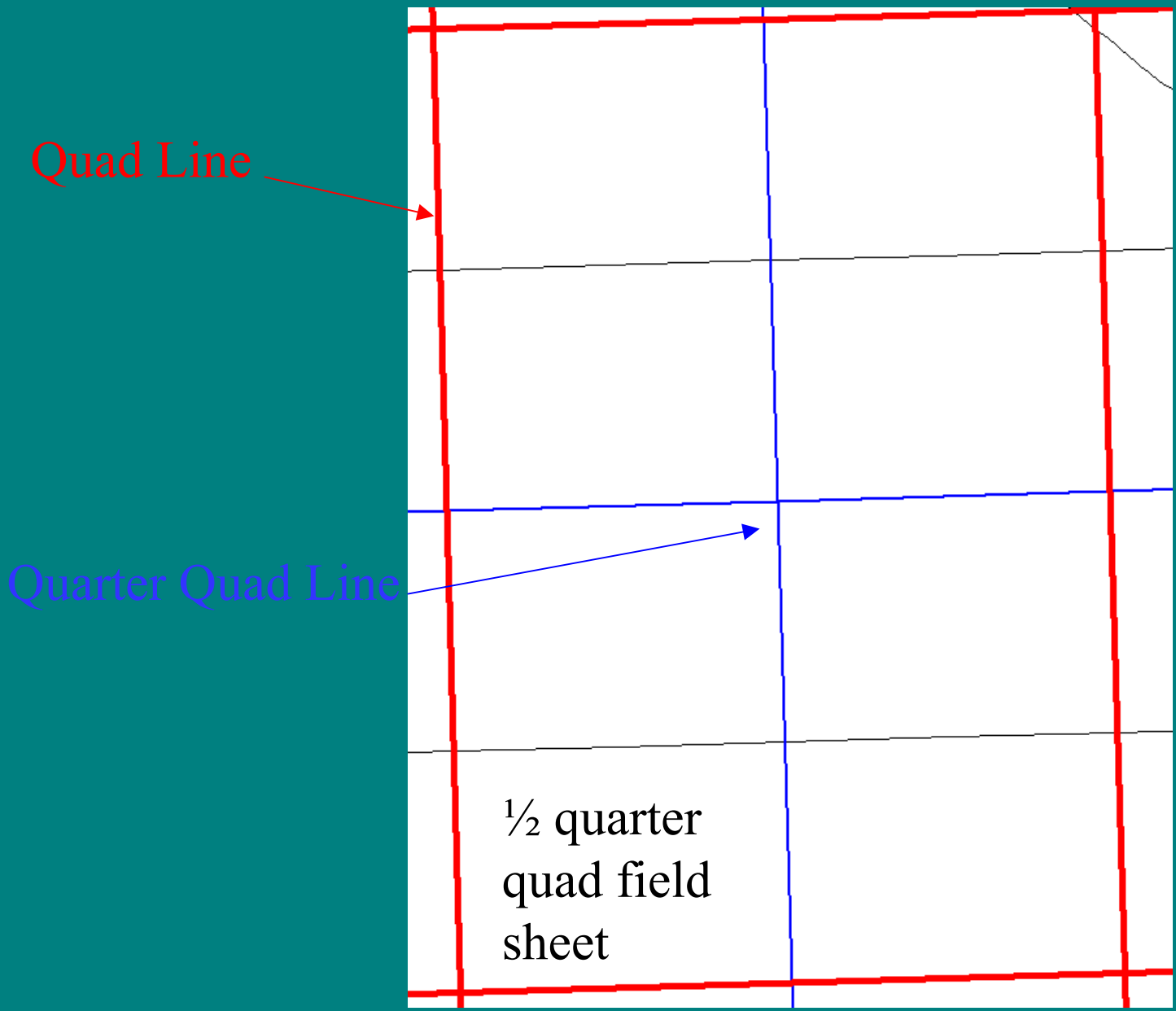
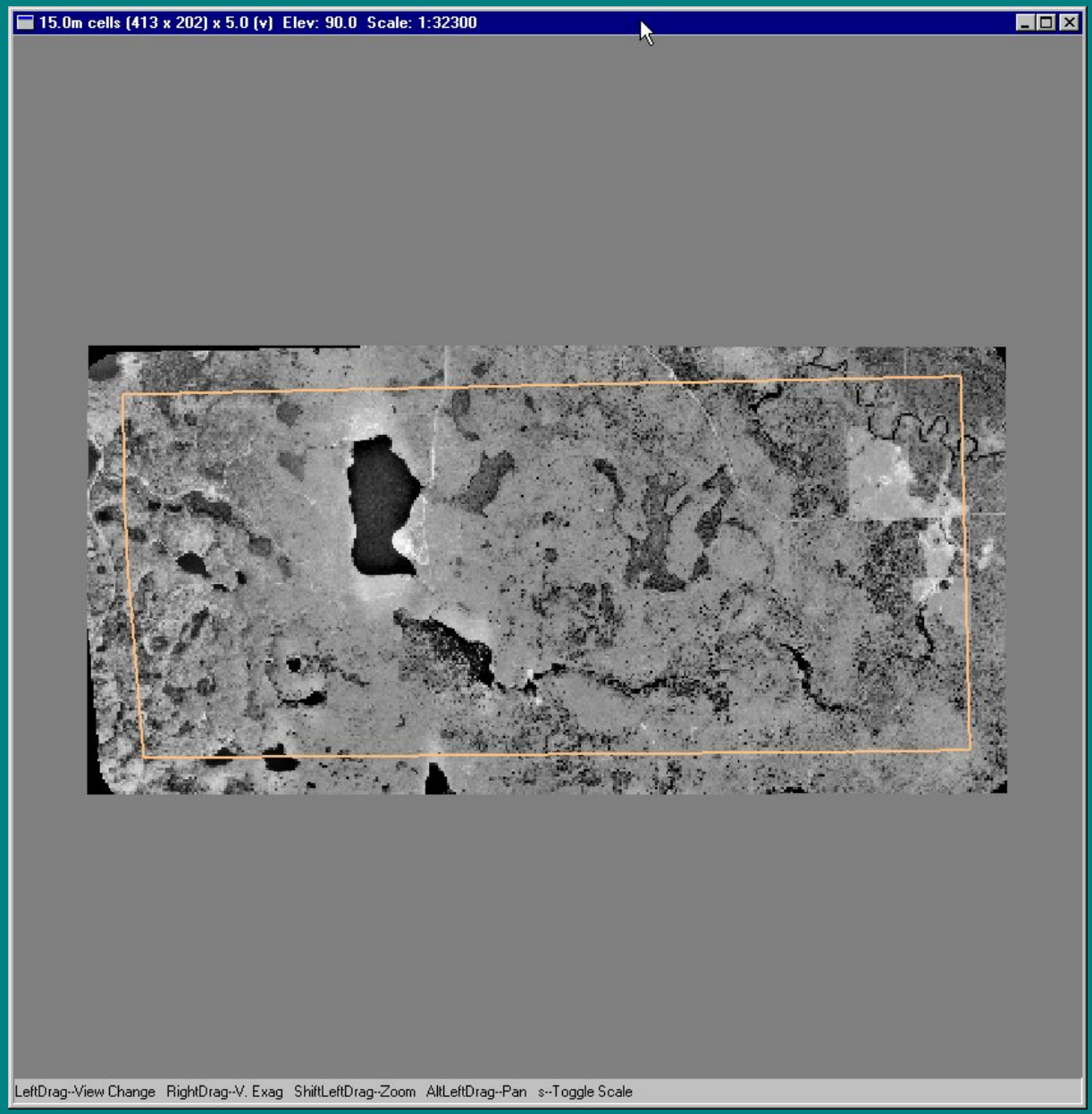


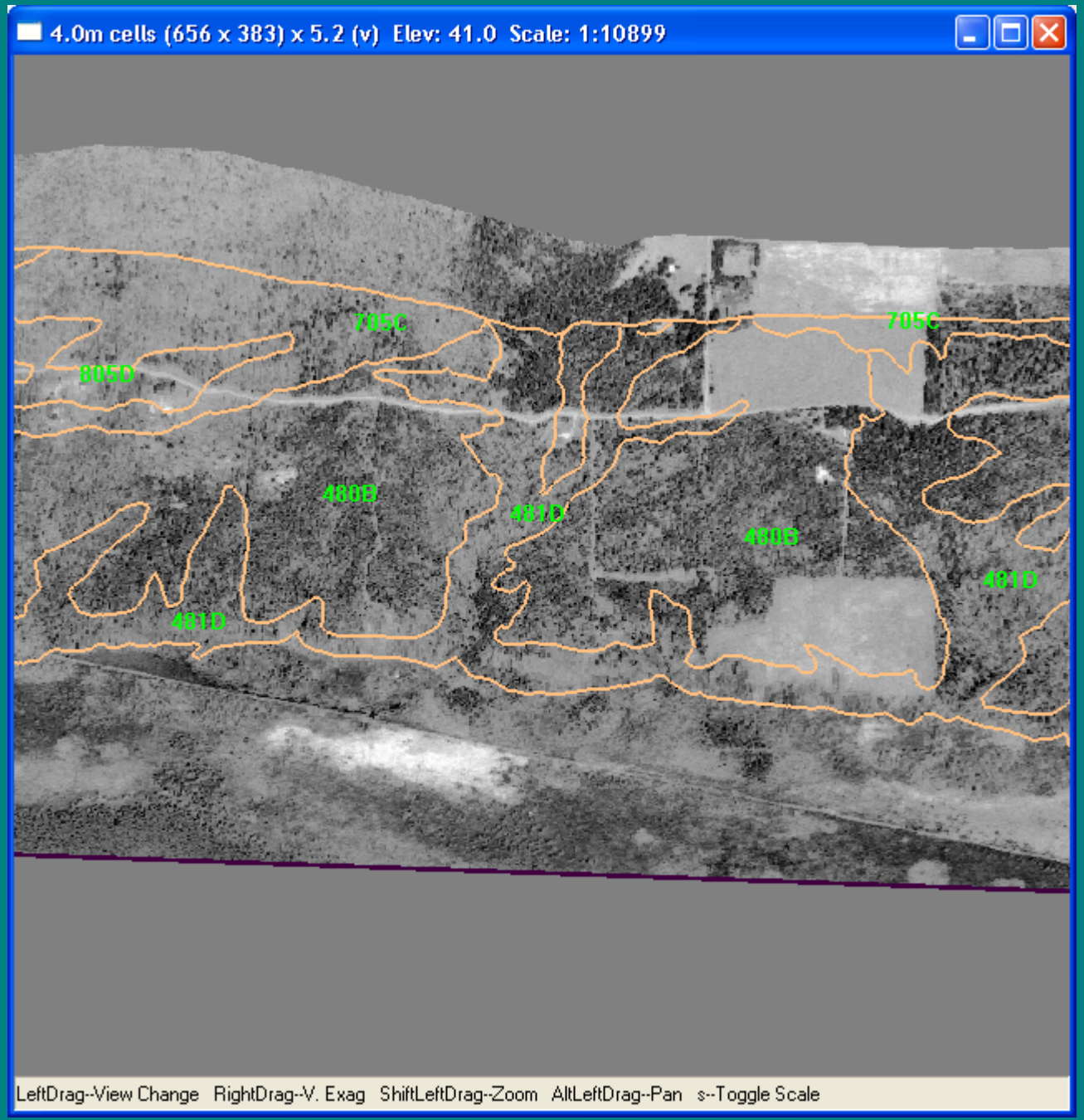
Photo index for the NW-10 Soil Survey




Quad Line
Quarter Quad Line
½ quarter quad field sheet

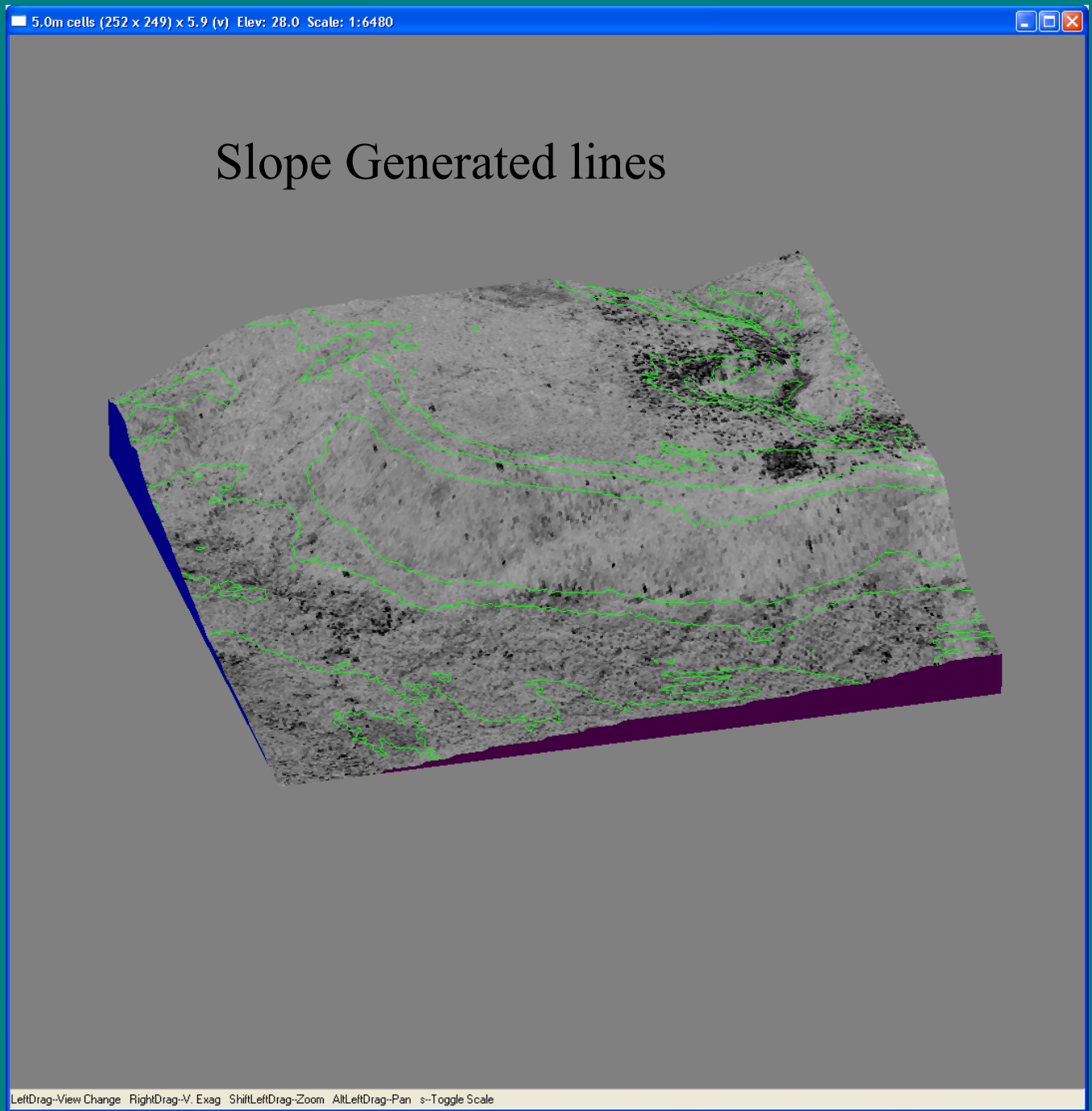
Field Sheet Size




4.0m cells (656 x 383) x 5.2 (v) Elev: 41.0 Scale: 1:10899
705C
705C
805D
480B
481D
480B
481D
481D
LeftDrag--View Change RightDrag--V. Exag ShiftLeftDrag--Zoom AltLeftDrag--Pan s--Toggle Scale

Future Plans:

- Have more soil scientists testing applicability
- Automate entering of GPS points
- Attribute polygons with point file
- Create Slope generated lines that work!!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Slope Generated lines
LeftDrag-View Change RightDrag-V. Exag ShiftLeftDrag-Zoom AltLeftDrag-Pan s-Toggle Scale